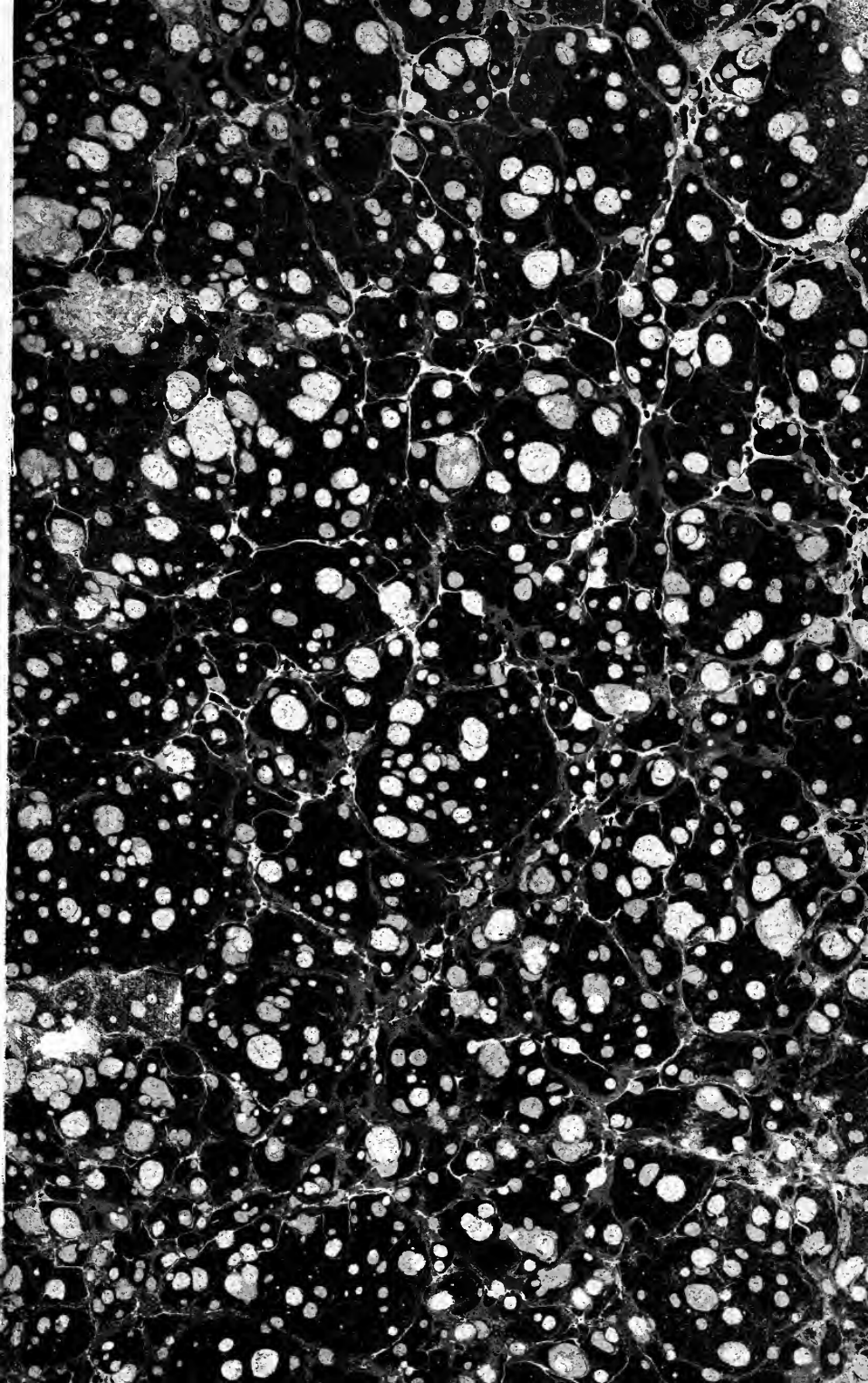
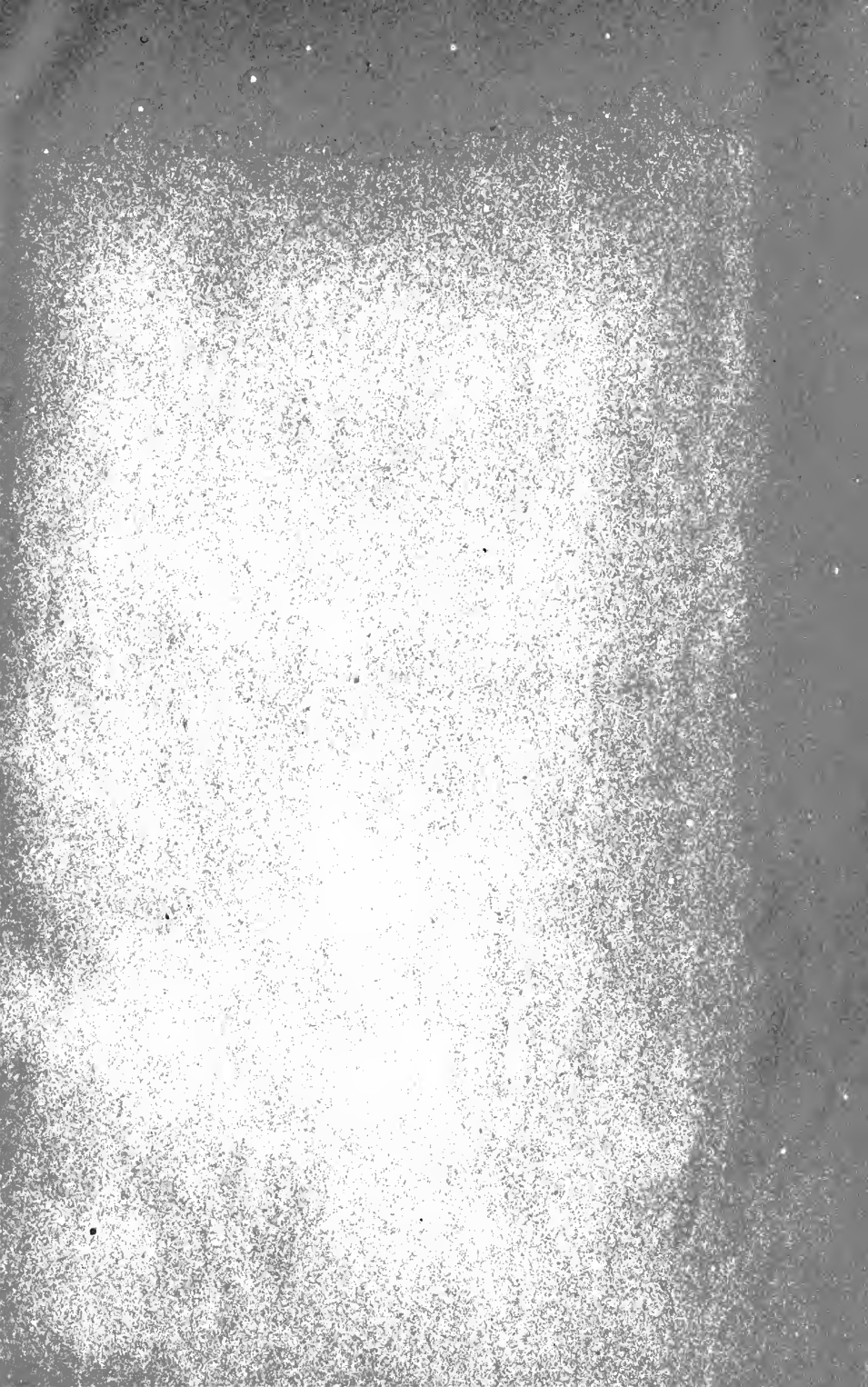


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RELATION OF THE NATIONAL GOVERNMENT
TO SCIENCE,

SPEECH

OF

HON. JAMES A. GARFIELD,
OF OHIO,

DELIVERED IN THE

HOUSE OF REPRESENTATIVES,

TUESDAY, FEBRUARY 11, 1879.

WASHINGTON.
1879.

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S P E E C H
OF
HON. JAMES A. GARFIELD.

The Committee of the Whole on the state of the Union, having under consideration the bill (H. R. No. 640) making appropriations for the legislative, executive and judicial expenses of the Government for the fiscal year ending June 30, 1880, and for other purposes, upon the sections consolidating the geological and other surveys—

Mr. GARFIELD said:

Mr. CHAIRMAN: I think it a misfortune that so important a measure as this is placed upon one of the annual appropriation bills. I have had occasion hitherto to characterize that method of legislation, and I think it is well illustrated in this case. If it could have been avoided in any way it ought, it seems to me, to have been avoided here. The subject embraced in the sections which relate to the surveys of the public land should have been embodied in a separate bill and subjected to the most careful scrutiny. But as the sections are here and may be ruled in order, I offer a few suggestions upon their merits.

I will say, however, that one subject provided for in these sections has had no other place in our laws except in appropriation bills; and probably cannot be ruled out on the point of order. I speak of those scientific surveys which for the last ten or twelve years have been supported by the Government. I think I am right in saying that there is no independent statute touching them; all the legislation in regard to them is to be found in the appropriation bills. And what I shall say in the short time I propose to address the committee this morning will relate chiefly to those surveys.

It is of the utmost importance that whatever the United States undertakes to do in reference to science shall be done upon some well-understood, well-reasoned, and well-defined system. And I venture to ask the attention of the Committee of the Whole for a few minutes to some general views on the relation of the National Government to this subject.

We are accustomed to hear it said that the great powers of government in this country are divided into two classes: national powers and State powers. That is an incomplete classification. Our fathers carefully divided all governmental powers into three classes; one they gave to the States; another to the nation; but the third great class, comprising the most precious of all powers, they refused to confer upon the States or the nation, but reserved to themselves. This third class of powers has been almost uniformly overlooked by men who have written of and discussed the American system.

My attention was called to this in a striking way not long since in reading a speech of Bismarck before the Reichstag of Germany. A proposition was pending to grant some political rights to the Jews in

the German Empire. Bismarck opposed it, and in doing so he took occasion to state what in his view was the primary object of the Prussian government, and I was startled at the statement:

All gentlemen around me will admit—

said he—

that the primary object of the Prussian government is to maintain and defend the Gospel of our Lord Jesus Christ. How, then, can one who disbelieves in Christ be properly admitted as a sharer of power in this kingdom?

I was struck with the fact that the great statesman of Germany—probably the foremost man in Europe to-day—stated as an unquestioned principle that the support, defense and propagation of the Christian gospel is the central object of the German government. Then I considered in contrast with that the peculiarity of our own Government. Our fathers, though recognizing in common with Germany and the other Christian nations of the earth the supreme importance of religion among men, deliberately turned to the great nation they were to establish and said: "You shall never make any law about religion;" and to the States they virtually said "You shall never make any law establishing any form of religion." In other words, here was an interest too precious to be trusted either to the nation or to the States. Our fathers said: "This highest of all human interests we will reserve to the people themselves. We will not delegate our power over it to any organized government, State or national. We will not even allow Legislatures to make any law concerning it."

To my mind it is the sublimest fact in our American system that, in defining the boundaries of delegated powers, they chose to intrust the most precious of all the interests of human beings on this earth absolutely to the voluntary action of the individual people of the Republic, not to be voted upon by their representatives, but to be regulated, protected, and cherished by their own voluntary action, leaving themselves perfectly free to have no religion if they chose or any religion that they pleased. Thus they exhibited their regard for liberty, their faith in the voluntary action of the people, and their belief that the most precious interests would be safest under the immediate guardianship of freemen. In my view, we have spent too much time in discussing State sovereignty and national supremacy, and have neglected to recognize and appreciate the vast importance of the reserved rights of the people.

It is a safe and wise rule to follow in all legislation, that whatever the people can do without legislation will be better done than by the intervention of the State or the nation.

What I have said in reference to religion, applies with almost equal force to science. In the main, the framers of our Government trusted science to the same jurisdiction to which they intrusted religion. With the single exception of one clause in the Constitution authorizing Congress to promote science by granting copyrights and patents, the chief support and maintenance of science are left, and I think wisely left, to the voluntary action of our people; and this was done, not in the interest of liberty alone, but in the interest of science itself.

This leads me to inquire what ought to be the relation of the National Government to science? What, if anything, ought we to do in the way of promoting science? For example, if we have the power, would it be wise for Congress to appropriate money out of the Treasury to employ naturalists to find out all that is to be known of our American birds? Ornithology is a delightful and useful study; but would it be wise for Congress to make an appropriation for the ad-

vancement of that science? In my judgment manifestly not. We would thereby make one favored class of men the rivals of all the ornithologists who in their private way, following the bent of their genius, may be working out the results of science in that field. I have no doubt that an appropriation out of our Treasury for that purpose, would be a positive injury to the advancement of science, just as an appropriation to establish a church would work injury to religion.

Generally the desire of our scientific men is to be let alone to work in free competition with all the scientific men of the world; to develop their own results, and get the credit of them each for himself; not to have the Government enter the lists as the rival of private enterprise.

As a general principle, therefore, the United States ought not to interfere in matters of science, but should leave its development to the free, voluntary action of our great third estate, the people themselves.

In this non-interference theory of the Government I do not go to the extent of saying that we should do nothing for education—for primary education. That comes under another consideration—the necessity of the nation to protect itself, and the consideration that it is cheaper and wiser to give education than to build jails. But I am speaking now of the higher sciences.

To the general principle I have stated, there are a few obvious exceptions which should be clearly understood when we legislate on the subject. In the first place the Government should aid all sorts of scientific inquiry that are necessary to the intelligent exercise of its own functions.

For example, as we are authorized by the Constitution and compelled by necessity to build and maintain light-houses on our coast and establish fog-signals, we are bound to make all necessary scientific inquiries in reference to light and its laws, sound and its laws—to do whatever in the way of science is necessary to achieve the best results in lighting our coasts and warning our mariners of danger. So, when we are building iron-clads for our Navy or casting guns for our Army, we ought to know all that is scientifically possible to be known about the strength of materials and the laws of mechanics which apply to such structures. In short, wherever in exercising any of the necessary functions of the Government scientific inquiry is needed, let us make it, to the fullest extent, and at the public expense.

There is another exception to the general rule of leaving science to the voluntary action of the people. Wherever any great popular interest, affecting whole classes, possibly all classes of the community, imperatively need scientific investigation, and private enterprise cannot accomplish it, we may wisely intervene and help where the Constitution gives us authority. For example, in discovering the origin of yellow fever and the methods of preventing its ravages the nation should do, for the good of all what neither the States nor individuals can accomplish. I might perhaps include in a third exception those inquiries which, in consequence of their great magnitude and cost, cannot be successfully made by private individuals. Outside these three classes of inquiries, the Government ought to keep its hands off, and leave scientific experiment and inquiry to the free competition of those bright, intelligent men whose genius leads them into the fields of research.

And I suspect, when we read the report of our commissioner to the late Paris exposition which shows such astonishing results, so cred-

itable to our country, so honorable to the genius of our people, it will be found in any final analysis of causes, that the superiority of Americans in that great exposition resulted mainly from their superior freedom and the greater competition between mind and mind untrammelled by Government interference. I believe it will be found we are best serving the cause of religion and science and all those great primary rights which we did not delegate to the Congress or the States, but left the people free to enjoy and maintain them.

Mr. Chairman, leaving these general reflections, I come to the special question of our geological surveys. Leaving out of the account all the Government works proper, such as light-houses, such as the survey of our coast, such as the survey for our rivers and harbors, such as the surveys of the lakes, of military surveys proper—leaving all these out, we have spent almost \$2,000,000 in the last twelve years for purely scientific surveys. While the results have been very gratifying, while they have been exceedingly interesting to men of science, and also of commercial value to the country, I believe we have spent a large part of that money upon an unwise system, and in a way which has tended to discourage the private pursuit of science by our people.

We have made the Government a formidable and crushing competitor of private students of science; and I think we have in some cases gone beyond the fair limit of what the Government ought to do in the way of scientific investigation. We have had the War Department with two or three separate expeditions exploring our western territory. We have had two separate organizations from the Interior Department also exploring; and it has all been done on a system which has invited and fostered a personal seeking of favor from Congress. There have been good men, intelligent men, scientific men, who have sought for authority and aid to make scientific investigations in fields which private citizens were exploring; and in employing so many separate and independent parties there have been many cases, if not of collision, at least of overlapping and duplication in the same field of examination. It seems to me it is high time for us, first, to restrict our scientific work plainly and narrowly within the limits of the rules I have tried to lay down; and second, to consolidate the scientific part of our work of survey under one responsible head; and having done that, with all the economy which can be fairly used, let us make our outlay only in the direction of public necessity.

Now, lest some one should think I am attacking the geological surveys, I hasten to say that it is absolutely vital to an intelligent discharge of our duties as trustees or rather as owners of the great public domain yet unsurveyed and unsold, to give to our people all the light that science can shed upon the character and quality of those lands.

While I may doubt the propriety of making at once the whole change proposed in this bill, it is perfectly clear to my mind that we have reached a natural crisis in the management and disposition of our public domain. We have now reached the foot-hills of the great Rocky Mountain chain; and the old plans, the old methods, both of survey and of settlement, are in the main no longer applicable. Of what possible use can it be to checker-board the slopes and the tops of mountains that are full of ores with the old system of sections, half sections, and quarter sections?

To say that the old plan has worked well for a hundred years is to praise our past properly; but to say that the same plan will work well for the next hundred years is to say the matchlocks, gun-flints,

the spontoons and other nameless and obsolete implements of war, that were in vogue a hundred years ago, will be good for a hundred years to come, and should not be abandoned. We must not revolutionize merely for the sake of change; but we must wisely and intelligently adapt our policy to the progress of events; and I believe it has been clearly shown that if the old rectangular system is continued it will be substantially worthless in its application to most of our unsurveyed territory.

Mr. KEIFER. It never was applied to them.

Mr. GARFIELD. We do not want it to be.

Mr. KEIFER. And it never will be.

Mr. GARFIELD. But I am confining what I say to-day almost exclusively to that clause of the bill which relates to the scientific surveys. As regards the land surveys, I confess I have not studied that subject so fully as some of the gentlemen around me.

Mr. PAGE. May I ask the gentleman a question?

Mr. GARFIELD. Yes, sir.

Mr. PAGE. I ask the gentleman from Ohio if he is not aware that the amendment of which he is now speaking is directly in violation of, or changes, existing law, and makes an appropriation for an additional officer not now known to the law; and whether he is in favor of new legislation on an appropriation bill?

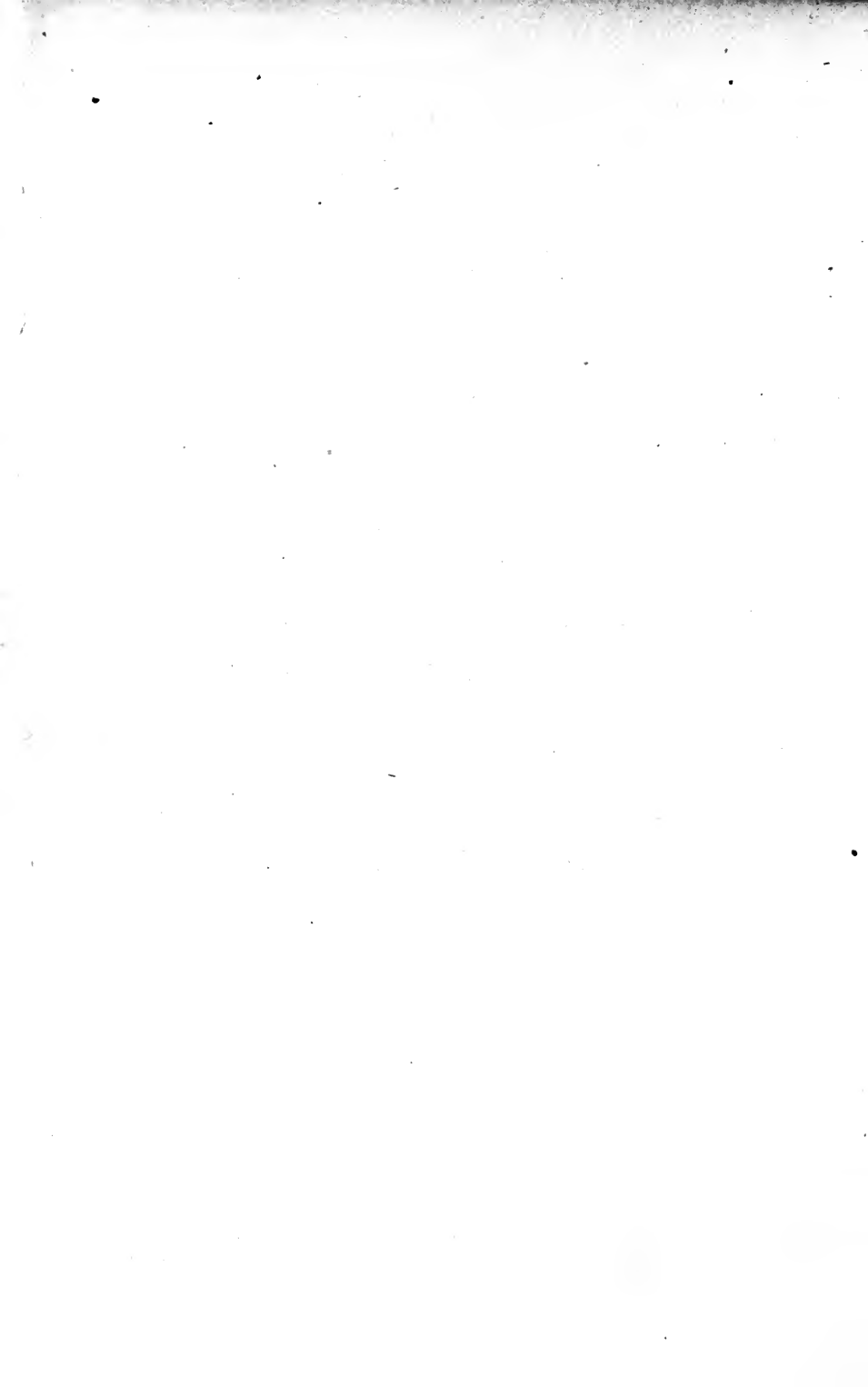
Mr. GARFIELD. I have said in the outset of my remarks that I am opposed to that mode of legislation, and that I regretted for that reason that this provision was here and not in a bill by itself. My record is too well known to leave any doubt on that subject.

I say this: let us consolidate these scientific explorations and surveys and unite them under one head, and not scatter them as we have done hitherto and waste money and duplicate work and make the name of science ridiculous in the United States. As to the other parts of these sections, let us at least make an arrangement, if we do no more, by which we shall have a full and complete report upon the whole subject, so that we may make these changes soon if not now.

In this hurried way I have said nearly all I intended to say, except to call attention to one other point. Besides going too far in scientific explorations, we have greatly wronged the scientific publication societies of this country. I suppose some gentlemen may not know that there are twenty-seven voluntary scientific associations in this country that publish their proceedings, besides five or six journals specially devoted to publishing discoveries of science.

These are a part of the means by which discoveries in science can find their way to the public through the press; and yet we are printing thousands of volumes in competition with the private associations of the country, and thereby injuring and crippling them. I believe we ought simply to confine ourselves to our own business and not needlessly travel into their field. Without very much reflection and in a manner quite unsatisfactory to myself, I have offered these suggestions. If I have stimulated any one to do the subject better justice, I shall not altogether have failed of my purpose.

I now yield ten minutes of my time to my friend from Kansas, [Mr. HASKELL.]



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